Claims

1. Method for controlling the operating point of a transistor of a power amplifier for amplifying time division multiplex (access) TDM(A)-signals, comprising the steps of:

   - detecting a deviation between a set operating point and an actual operating point of said transistor;
   - detecting the occurrence of said null power time slots or using the knowledge when they occur; and
   - adjusting the bias of the gate/base of said transistor according to said deviation in order to re-establish said set operating point;

   wherein
   these steps are carried out during separate null power time slot of said TDM(A)-signals.

2. Method according to claim 1, wherein the step of adjusting the bias optionally comprises the substep of:

   - checking the adjustment of the bias.

3. Method according to one of the preceding claims, wherein the null power time slots to be used arise consecutively or not within said TDM(A)-signal.

4. Method according to one of the preceding claims, wherein the adjustment of the bias is carried out iteratively during several control loops.

5. Method according to one of the preceding claims, wherein the set operating point is adapted in response to the temperature in the surrounding of the

transistor.

6. Method according to one of the preceding claims, wherein bias means the gate/base voltage for driving the gate/base of the transistor.

7. Method according to one of the preceding claims, wherein the controlling of the operating point of the transistor is done only after the transistor has reached a steady state with respect to its temperature after a switch-on of the power amplifier.

8. Method according to claim 7, wherein the controlling of the operating point is started after N, e. g. N = 3, null Power time slots have occurred.

9. Computer program for a controlling unit of a Power amplifier, comprising code being adapted to carry out the method according to one of claims 1 - 8 when running on a microprocessor.

10. Computer program according to claim 9, wherein the code is stored on a computer-readable storage medium.

11. Power amplifier for amplifying time division multiplex (access) TDM(A)-signals in a TDM(A) system, in particular in a Global System for Mobile Communications GSM, comprising

- a transistor for amplifying said TDM(A)-signals;
- a shunt being connected in series to the drain-source path or collector-emitter path of said transistor for providing a measurement voltage, the constant component of which representing the actual operating point of said transistor; and

- a controlling unit for detecting a deviation between a set operating point and said actual operating point, for detecting the occurrence of null power time slots within said TDM(A)-signals and for adjusting the bias of the gate/base of said transistor according to said deviation in order to re-establish said set operating point;

wherein

the controlling unit is embodied to carry out the detecting and adjusting steps during separate ones of said detected null power time slots.

12. Power amplifier according to claim 11, wherein the controlling unit is embodied as a digital signal processor.

13. Transmitter, in particular a radio transmitter, comprising a power amplifier according to claims 11 or 12.

14. Transmitter station, in particular a radio transmitting base station, comprising at least one transmitter according to claim 13.

15. A telecommunications system, in particular a mobile radio system, comprising at least one power amplifier according to one of claims 11 or 12.